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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/828,745	04/21/2004	Michael L. Whitehead	4011	5487

63151 7590 11/17/2006

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EXAMINER

ISSING, GREGORY C

ART UNIT

PAPER NUMBER

3662

DATE MAILED: 11/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/828,745

Applicant(s)

WHITEHEAD ET AL.

Examiner

Gregory C. Issing

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 31-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 31-34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

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1. At the outset, it is noted that the applicant has not provided any response to the Interview of Sept 6, 2006. According the interview summary, applicant was required to file a statement of the substance of the interview within a NON-EXTENDABLE PERIOD OF TIME OF ONE MONTH OR THIRTY DAYS FROM THE DATE OF THE INTERVIEW. According to MPEP 710.02(d),

The penalty attaching to failure to take a particular action within a specified time is a loss of rights in regard to the particular matter

2. Since the applicant has failed to file a substance of the interview within the required time limit, the interview summary is incomplete and the applicant loses the rights of the interview.

3. The instant Office Action will be directed to the claims as presented in the amendment filed September 5, 2006.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 31-34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear what "points" are being measured for their relative position. The first and second antennas have known locations relative to each other, thus measuring the relative positions of such using the claimed system fails to clearly and distinctly define the subject matter.

In line 7, the language "configured to configured to" is duplicative.

In line 10, the language " a relative orientation" is not understood since it is unclear what it is relative to.

The parenthetical expression "(absolute)" is indefinite since it is unclear whether or not this is a limitation. Also present in claim 33.

It is not understood what is meant by the language "using unknowns corresponding to X and Y coordinates and said clock" since the clock is part of the system and is utilized by the receiver. It is not clear how "said clock" is an unknown.

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The preamble defines a system for measuring "relative position" but the position solution determines a "Earth-fixed (absolute) position," as these represent two different types of positions it is unclear what is the purpose of the claimed subject matter and it is unclear which of the two is the intended result.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

7. Claims 31-34 are rejected under 35 U.S.C. 102(b) as being anticipated by Geier (5,202,829).

8. Geier discloses a system for simultaneously measuring absolute and relative positions/velocities of a plurality of ground-based units in close proximity in view of the system for measuring the relative positions of a tailbuoy subsystem (TBS) coupled to the shipboard system (SBS) wherein there is included a GPS receiver 54 coupled to a first antenna 52 for receiving a plurality of GPS signals 30 and a second antenna 63 for receiving a plurality of GPS signals 32. Geier teach the use of three measurements to triangulate position, four measurements to triangulate and correct clock errors, or three measurements when altitude is constrained to a value such as mean sea level. A clock is used to time tag measurements as well as used in a conventional manner to determine the navigation solution.

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Additionally separation vectors are continuously updated and represent the vectors from each buoy to the ship and thus represent the relative orientation.

9. Applicant does not separately argue the reference to Geier but simply argues that none of the references alone or in combination teach the presently claimed invention, apparently referring to the recitation of the claim in its substantial entirety. Applicants fail to particularly point out how the claimed subject matter distinguishes over the prior art. Moreover, Geier sets out a system having at least first and second antenna which can be attached to GPS receivers, determines and knows the separation vectors between the antenna and thus knows the relative position and orientation therebetween, and determines a position solution – the unknowns of a position solution in GPS are inherently defined by X and Y coordinates and clock data.

10. Claims 31-34 are rejected under 35 U.S.C. 102(e) as being anticipated by Rorabaugh (6,922,635).

11. Rorabaugh discloses a system for measuring positions of GPS-enabled devices wherein the system includes first and second devices 101A and 101B comprising respective GNSS antennas 120 for receiving GNSS signals and respective time of day clocks. The invention is directed to embodiments wherein either of the first or second device cannot receive the full complement of GPS signals and instead utilizes the satellite signals in conjunction with range or relative position information of a networked device. Relative position information includes both range and direction information and therefore provides information regarding the known locations relative to each other and the orientation thereof. Rorabaugh discloses configurations wherein the split of LOS to satellites includes 3-2 or 4-1 and thus discloses one of the antennas having an absolute location. As all of the receivers are synchronized to GPS time, a common time/clock is shared among the devices, i.e. GPS time.

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date

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of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory C. Issing whose telephone number is (571)-272-6973. The examiner can normally be reached on Monday - Thursday 6:00 AM- 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Tarcza can be reached on (571)-272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Gregory C. Issing  
Primary Examiner  
Art Unit 3662

gci